STATE ROUTE 16
TRANSPORTATION CONCEPT REPORT

CALTRANS DISTRICT 10
OFFICE OF SYSTEM PLANNING
August 2002

APPROVAL RECOMMENDED:

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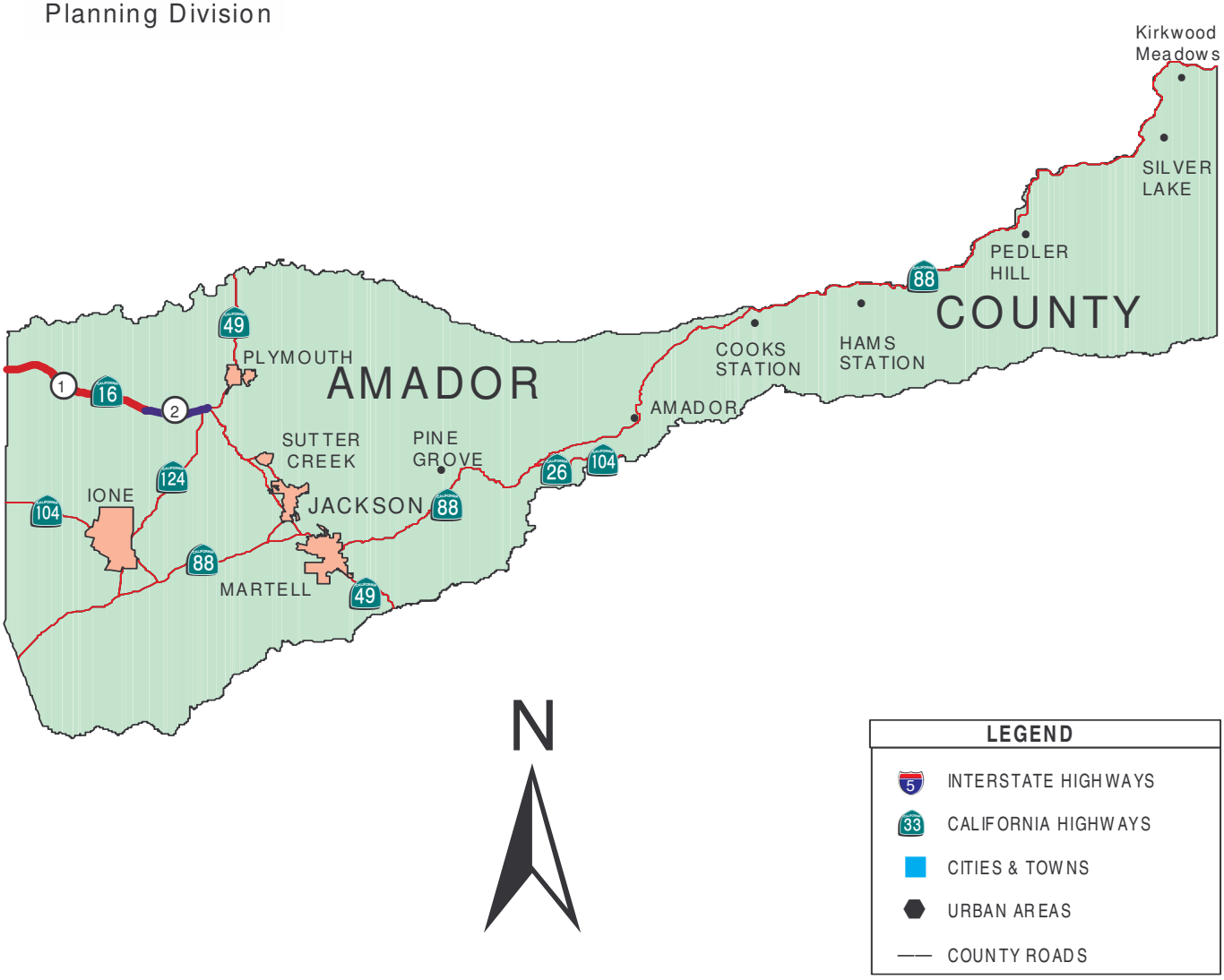
STATE ROUTE 16 TRANSPORTATION CONCEPT REPORT
Segmentation Map - Amador County

Department of Transportation
District 10
Office of System Planning



EXECUTIVE SUMMARY

SEG	POST MILE	LOCATION	2000 LOS	CURRENT FACILITY	2020 LOS W/O IMPROVEMENT	2020 LOS CONCEPT	2020 CONCEPT FACILITY
1	0.00-6.39	Sacramento County Line to Latrobe Road	C	2-lane expressway	D	C	4-lane* expressway
2	6.39-9.37	Latrobe Road to Central House, Jct. State Route 49	C	2-lane expressway	D	C	4-lane* expressway

*2-lane concept facility may be acceptable. The concept facility will be investigated again in the next update.

Transportation Concept Report
State Route 16

STATEMENT OF PLANNING INTENT

System planning is Caltrans' long-range transportation planning process used to identify and prioritize future transportation improvements in cooperation with its planning partners. System planning facilitates the efficient, economical, and intermodal movement of people, goods, and information. It is part of the continuing, cooperative, and comprehensive transportation planning process. System planning strives for interregional and statewide continuity of the State's transportation network.

PURPOSE OF THE TRANSPORTATION CONCEPT REPORT

The Transportation Concept Report (TCR) is a system planning document and tool which includes an analysis of a transportation corridor. It establishes a 20-year concept that is consistent with the District's goals as set forth in the District System Management Plan (DSMP). The TCR establishes the future concept of Level of Service (LOS) for segments along the route and broadly identifies the nature and extent of the improvements needed to attain that Level of Service. Operating conditions for each corridor are projected for 10-year and 20-year horizons. Beyond the 20-year planning period, the TCR identifies the Ultimate Transportation Corridor (UTC) to ensure that adequate right-of-way is preserved for future ultimate facility projects.

This report is prepared by Caltrans staff in cooperation with the regional and local agencies which have jurisdiction within this corridor. The objective of the TCR is to have local, regional, and state consensus on route or corridor concepts, improvement priorities, and planning strategies. This document provides concept information only and does not determine policy.

The TCR will be updated as needed, as conditions change, or as new information is obtained.

ROUTE DESCRIPTION

State Route (SR) 16 begins at SR-20 in Colusa County, and ends at its junction with SR-49 in Amador County. In Amador County, the route is 9.37 miles in length. It crosses on flat rural terrain and is a connector between the foothill communities of Amador County and the Sacramento metropolitan area.

Route Designations

SR-16 is on the California Freeway and Expressway System. It is included in the Interregional Road System but it is not a High Emphasis Route or Focus Route. It is part of the National Network for STAA trucks but it is not part of the Strategic Highway Network (STRAHNET).

Projects to build new highways or add capacity to existing highways are funded through the State Transportation Improvements Program (STIP). Legislation approved in 1998 (Senate Bill 45) specifies that Regional Transportation Planning Agencies (RTPAs)such as the Amador County Transportation Commission (ACTC), will have decision-making authority over 75% of STIP funds, while the State makes funding decisions for the remaining 25% of the funds. This legislation further specified that the State's 25% share could only be used on State highways which are part of the Interregional Road System (IRRS). SR-16 is designated as an IRRS route between the east urban limit of Sacramento and SR-49; therefore, it is eligible for funding considerations as part of the State's 25% share of STIP funds. Capacity improvements on this route can also be funded as part of the STIP funds available to the Amador County Transportation Commission.

Purpose of Route

SR-16 is functionally classified as a Minor Arterial route for industrial, commercial, agricultural and recreational purposes. It provides a convenient east/west link between rural mountain communities with the Sacramento area. It also serves as an access route to the Sierra Nevada foothills via SR-49 and SR-88.

ROUTE CONCEPT / SUMMARY / RATIONALE / CONSIDERATIONS

The route concept is comprised of two factors:

1) The minimum LOS tolerable for peak hour conditions.
2) The type of facility necessary to provide the concept LOS.

(Refer to Appendix 2 for the designation of LOS levels.)

State Route 16 Concept

Our concept Level of Service for our 20-year planning horizon is LOS "C." Our concept facility is a 4-lane expressway. The Ultimate Transportation Corridor (UTC), beyond our 20-year planning horizon, is a 4-lane expressway.

Segment 1

Our concept facility for Segment 1 (PM 0.00-6.39) is a 4-lane expressway. However, a 2-lane concept facility may be acceptable. The concept facility will be investigated again in the next update.

Segment 2

Our concept facility for Segment 2 (PM 6.39-9.37) is a 4-lane expressway. However, a 2-lane concept facility may be acceptable. The concept facility will be investigated again in the next update.

Safety/Operational Improvements

Included on the Fact Sheet for each segment is the Traffic Collision Rate for that stretch of roadway. This rate indicates the number of accidents per million vehicle miles traveled based on the latest three years of data.

The State Highway Operations and Protection Program (SHOPP) requires Caltrans to prepare a highway operations and protection program to preserve and protect the state highway system. These improvements are limited to maintenance, safety, and operational improvements that do not add capacity to the system. Funding for these operational improvements compete on a statewide basis.

Signals

Signals are warranted based on traffic volumes, pedestrian traffic, interruption of continuous traffic and operation, peak hour delay and accidents. Currently there are two intersection control flashing beacons along SR-16, one at the merging junction with SR-124 (P.M.9.10) and the other at the end of SR-16 (P.M.9.37), junction SR-49.

Trucks

The average daily truck traffic volume on SR-16 is 7.7% of the Average Daily Traffic (ADT) volume. The majority of the truck traffic is the movement of goods and "farm-to-market" crops.

RIGHT OF WAY ISSUES AND ENVIRONMENTAL CONDITIONS

The State right-of-way width along the route fluctuates between 145 feet and 260 feet with no median. Our concept facility for the 20-year horizon and the UTC facility should not require the acquisition of new right-of-way.

In all cases where widening SR-16 is considered, the full range of environmental specialty studies will be required. These studies will include: cultural, biological, water quality, air quality, noise, socioeconomic, hazardous waste, visual and cumulative impacts of all projects along the corridor. In addition, where areas have been designated as a floodplain, assessments of the impacts of encroachments will be required. Any project to expand capacity along a Caltrans facility will require extensive environmental review to comply with the National Environmental Policy Act (NEPA) and the California Environmental Quality Act (CEQA). Therefore, planners and project managers should include sufficient time and resources for environmental review of these projects that will meet our future transportation needs on this facility.

AIR QUALITY

SR-16 is located in the Mountain Counties Air Basin, which is defined by mountain and foothill ranges. Areas within each air basin are considered to share the same air masses and are therefore expected to have similar ambient air quality. Amador County has been designated as a non-attainment for particulate matter (PM-10), and as unclassified area for carbon monoxide (CO).

Pollutant data collected at the Jackson monitoring station in November of 1992 indicates that ozone emissions exceed state standards. As a result, the California Air Resources Board (CARB) has designated Amador County as a non-attainment area for ozone emissions. However, the CARB recently determined that the severity of the non-attainment status was due overwhelmingly to pollutants transported from the Central Valley. Therefore, the County is not required to implement the conformity and trip reduction activities mandated by the State and Federal legislation. Regardless of the status, increasing traffic congestion will translate into increased air emissions. Improvements to the transportation system should result in lower air emissions via reductions in congestion (Amador County Regional Transportation Plan /Circulation Element).

State and federal laws require that all state and regional transportation plans include conformity with the Environmental Protection Agency's (EPA) adopted State Implementation Plan (SIP) for air quality. The Amador County APCD (Air Pollution Control District) is the local agency responsible for watching over the air resources in Amador County.

ALTERNATIVE TRANSPORTATION

Fixed Route Transit and Demand Response Service

The Amador Rapid Transit System (ARTS) provides deviated fixed route bus service up to 1/2 mile away from its regular scheduled routes. ARTS serves all five cities and most of the unincorporated communities in the western portion of Amador County along Highway 49, 88 and 104. ARTS also provides an intercity bus route serving Jackson (Martell) to Rancho Murrieta with a connection to the Sacramento Regional Transit that will take passengers onto downtown Sacramento. ARTS Buses operate Monday through Friday with limited service on Saturdays.

Door to door service is available for seniors attending the Jackson area Nutrition Program. Service is provided to and from Pioneer, Pine Grove, Jackson, and Sutter Creek. This service operates Monday through Friday, including holidays.
Public transit in Amador County is provided by a number of public agencies and one private company. In addition to ARTS, the following is a list of transportation services provided to the general public, transportation disadvantaged, and transit dependent:

- Amador County Unified School District: provides school bus service for students.
- Pioneer Cab Company: based in the City of Jackson and is the only taxicab company in Amador County.
- Blue Mountain Transit: a private van service based in the City of San Andreas that provides transit service to the City of Sutter Hill.
- Amulvan: provides service to medical patients whose needs cannot be serviced within the County of Amador.
- ARC: provides service to the developmentally disabled.
- New Beginnings: provides services to people visiting the Mule Creek State Prison in the City of Ione.

Rail

While there is freight rail service between Martell/Ione and the Central Valley, Amador County does not have passenger rail service. The closest Amtrak stations are Sacramento and Stockton. The San Joaquins rail service offers four daily northbound and southbound trains, connecting Los Angeles and Oakland via Sacramento or Stockton.

Aviation

Westover Field, located near Martell, is the only public airport serving Amador County. The County does not have commercial service.

Bicycle Facilities

SR-16 is accessible for bikes. The 8-feet paved shoulders along the route allow bicycle riders enough room for safety travel along the highway.

There are few designated bicycle routes in Amador County due to the small percent of the local population who use bicycles, approximately less than 1%. This is due to the preference of autos by residents because of the dispersed pattern of urbanization, hilly terrain. There is, however, an increased interest in bicycling by tourists.

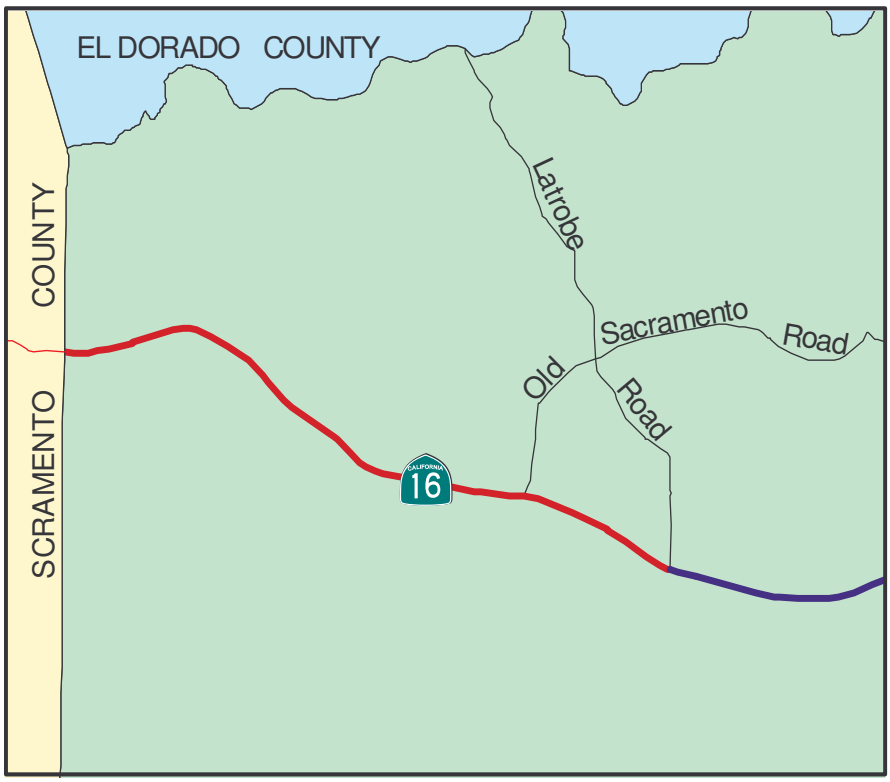
INTELLIGENT TRANSPORTATION SYSTEM (ITS)

Non-recurring congestion and delays are attributed to unplanned incidents such as traffic accidents, stalled vehicles, or special events. This non-recurring congestion may be reduced by improving incident management and reducing the number of incidents through an ITS. ITS is designed to identify non-recurring incidents and remove them from the freeway as quickly and efficiently as possible. ITS also provides benefits for traveler information and congestion management through changeable message signs, ramp metering, and automated warning systems.

District 10 has embarked on a program of advanced technology to meet our present and future traffic demands. The 1999 District Traffic Management Long-Range Operational Plan proposed Automated Warning System, Changeable Message Signs, Weather Conditions and Loops. Presently, there is no ITS project identified along SR-16.

A Sierra Nevada ITS Strategic Deployment Plan is currently under way to study potential development of ITS uses on a regional basis to address issues, solve problems, and meet needs impacting transportation in the Sierra Nevada Region. The study area includes a 250-mile-long section of the Sierra Nevada mountain range. It covers the five mountain counties served by District 10, Alpine, Amador, Calaveras, Mariposa, and Tuolumne. This plan also includes Mono and Inyo counties, both served by District 9, and a third focus area is known as the trans-sierra region. The study is about two thirds complete.

SR-16: AMADOR COUNTY - SEGMENT 1
FACT SHEET



Location:
PM 0.00- 6.39
Sacramento Co. Ln.
to Latrobe Rd.

Length:
6.39 miles

Functional Classification:
Minor Arterial

Rural/Urban:
Rural

Within City Limits:
No

Terrain:
Rolling

Traffic Forecast Data for existing 2-lane Expressway, Average Highway Speed 65 mph

	2000 Existing 2-lane Expressway	2010 w/o Improvement	2020 w/o Improvement
LOS	C	C	D
V/C	0.19	0.26	0.30
ADT	5,000	7,000	8,000
Peak Hour Volume	520	730	830
Peak Hour Dir. Split	65/35	65/35	65/35
% Trucks	8%	8%	8%

Concept Facility (2020) 4-lane, expressway: LOS C
2-lane concept facility may be acceptable after revisiting 2020 traffic forecasting projection in a couple more years.

Ultimate Transportation Corridor 4-lane, expressway

Local Planning Jurisdiction
Amador County Transportation Commission

System Designations

Yes	Freeway/Expressway System
No	National Highway System (NHS)
Yes	Interregional Road System (IRRS)
No	High Emphasis Route
No	Focus Route
No	Strategic Highway Network (STRAHNET)
Yes	Terminal Access Route for National Truck Network
No	Scenic Highway

Right of Way/Shoulder Information

The right of way ranges from 145 feet to 260 feet. The paved shoulder width is 8 feet on each side of the roadway.

Air Quality/Environmental Status

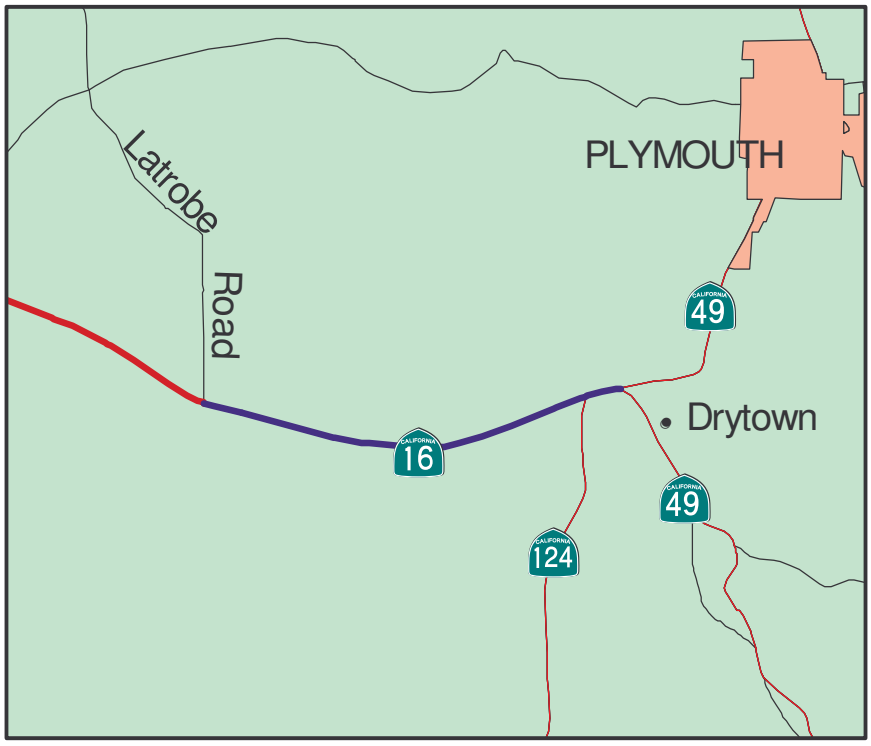
Air Quality	Ozone Particulate Matter Carbon Monoxide	Non-attainment Unclassified Unclassified
Flood Plain	Yes	Some portions within 100 year
Wetlands	Yes	Low to moderate sensitivity
Endangered Species	Yes	Moderate
Archaeological	Yes	Moderate sensitivity

Traffic Collision Rate (per million vehicle miles traveled)

Actual Accident Rate		**Statewide Average Rate**	
Fatal & Injury	Total (Includes Property Damage only)	Fatal & Injury	Total (Includes Property Damage only)
0.27	0.57	0.28	0.60

Source: TASAS Database (October 1, 1998 - August 31, 2001)

SR-16: AMADOR COUNTY - SEGMENT 2
FACT SHEET



Location:
PM 6.39-9.37
Latrobe Road to
Jct SR-49

Length:
2.98 miles

Functional Classification:
Minor Arterial

Rural/Urban:
Rural

Within City Limits:
No

Terrain:
Rolling

Traffic Forecast Data for existing 2-lane Expressway, Average Highway Speed 65 mph

	2000 Existing 2-lane Expressway	2010 w/o Improvement	2020 w/o Improvement
LOS	C	D	D
V/C	0.21	0.32	0.36
ADT	5,900	9,200	10,200
Peak Hour Volume	600	900	1,000
Peak Hour Dir. Split	65/35	65/35	65/35
% Trucks	8%	8%	8%

Concept Facility (2020) 4-lane, expressway: LOS C 2-lane concept facility may be acceptable after revisiting 2020 traffic forecasting projection in a couple more years.

Ultimate Transportation Corridor 4-lane, expressway

Local Planning Jurisdiction
Amador County Transportation Commission

Planned Project
PM9.37 Construct park-and-ride lot at SR-49 Junction, TSDP.

System Designations

Yes	Freeway/Expressway System
No	National Highway System (NHS)
Yes	Interregional Road System (IRRS)
No	High Emphasis Route
No	Focus Route
No	Strategic Highway Network (STRAHNET)
Yes	Terminal Access Route for National Truck Network
No	Scenic Highway

Right of Way/Shoulder Information

The right of way ranges from 80 feet to 180 feet. The paved shoulder width is 8 feet on each side of the roadway.

Air Quality/Environmental Status

Air Quality	Ozone Particulate Matter Carbon Monoxide	Non-attainment Unclassified Unclassified
Flood Plain	Yes	Some portions within 100 year
Wetlands	Yes	Low to moderate sensitivity
Endangered Species	Moderate	Species of concerns: moderate sensitivity
Archaeological	Moderate	Sensitivity

Traffic Collision Rate (per million vehicle miles traveled)

Actual Accident Rate		**Statewide Average Rate**	
Fatal & Injury	Total (Includes Property Damage only)	Fatal & Injury	Total (Includes Property Damage only)
0.70	1.17	0.28	0.60

Source: TASAS Database (October 1, 1998 - August 31, 2001)

Appendix 1

LIST OF SYSTEM PLANNING ACRONYMS

AADT	Annual Average Daily Traffic
ACTC	Amador County Transportation Commission
ADT	Average Daily Traffic
AHS	Automated Highway System
ATIS	Advance Transportation Information System
ATSD	Advanced Transportation System Development
AVI	Automated Vehicle Identification
BN&SF	Burlington Northern and Santa Fe Railroad
CBD	Central Business District
CCAA	California Clean Air Act
CMAQ	Congestion Mitigation and Air Quality (Improvement Program)
CMP	Congestion Management Plan
CO	Carbon Monoxide
CTIS	California Transportation Investment Strategy
CTC	California Transportation Commission
DSMP	District System Management Plan
EPA	Environmental Protection Agency
ETTM	Electronic Toll Collection and Traffic Management
F&E	Freeway and Expressway System
FAT	Fatalities
FEMA	Federal Emergency Management Administration
FIS	Federal Inspection Facility
FY	Fiscal Year
HOV	High Occupancy Vehicle
ICES	Intermodal Corridors of Economic Significance
IIP	Interregional Improvement Plan
IRRS	Interregional Road System
ISTEA	Intermodal Surface Transportation Efficiency Act
ITMS	Intermodal Transportation Management System
ITS	Intelligent Transportation System
ITSP	Interregional Transportation Strategic Plan
LOS	Level of Service
LROP	Long Range Operations Plan
LRT	Light Rail Transit
MIS	Major Investment Study
MOU	Memorandum of Understanding
MSL	Maintenance Service Level
NAFTA	North American Free Trade Agreement
NHS	National Highway System
PHV	Peak Hour Volume

PM	Post Mile
PM-10	Particular Matter
PR	Project Report
PSR	Project Study Report
PTOC	Primary Traffic Operations Center
POE	Port of Entry
RAQS	Regional Air Quality Strategy
RAS	Regional Arterial System
RCR	Route Concept Report
RIP	Regional Improvement Plan
RTP	Regional Transportation Plan
R/W	Right of Way
SHOPP	State Highway Operations and Protection Program
STRAHNET	Strategic Highway Network
SIP	State Implementation Plan
SJCOG	San Joaquin Council of Governments
SJVUAPCD	San Joaquin Valley Unified Air Pollution Control District
SOV	Single Occupancy Vehicle
SPRR	Southern Pacific Rail-Road
SR	State Route
STAA	Surface Transportation Assistance Act
STIP	State Transportation Improvement Program
TASAS	Traffic Accident Surveillance Analyst System
TCM	Transportation Control Measure
TCR	Transportation Concept Report
TCRP	Traffic Congestion Relief Program
TDM	Transportation Demand Management
TEA-21	Transportation Equity Act of the 21st Century
TSDP	Transportation System Development Plan
TMA	Transportation Management Association/Area
TMC	Transportation Management Center
TSM	Transportation System Management
UPRR	Union Pacific Rail-Road
UTC	Ultimate Transportation Corridor
V/C	Volume to Capacity
VMT	Vehicles Miles Traveled

Appendix 2
Level of Service (LOS) Definitions

The Level of Service (LOS) is a qualitative measure describing operational conditions within a traffic stream and their perception by motorists. A LOS definition generally describes these conditions in terms of speed, travel time, freedom to maneuver, traffic interruption, comfort, and convenience. Six levels of LOS can generally be categorized as follows:

LOS A describes free flowing conditions. The operation of vehicles is virtually unaffected by the presence of other vehicles, and operations are constrained only by the geometric features of the highway.

LOS B is also indicative of free-flow conditions. Average travel speeds are the same as in LOS A, but drivers have slightly less freedom to maneuver.

LOS C represents a range in which the influence of traffic density on operations becomes marked. The ability to maneuver with the traffic stream is now clearly affected by the presence of other vehicles.

LOS D demonstrates a range in which the ability to maneuver is severely restricted because of the traffic congestion. Travel speed begins to be reduced as traffic volume increases.

LOS E reflects operations at or near capacity and is quite unstable. Because the limits of the level of service are approached, service disruptions cannot be damped or readily dissipated.

LOS F represents a breakdown or forced flow. It usually occurs at a point on a planned facility when forecast demand exceeds computed capacity.